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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
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ART UNIT	PAPER NUMBER
3768	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/562,585	HAHL, MARKUS	
	Examiner	Art Unit	
	KATHERINE L. FERNANDEZ	3768	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 May 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *39,45-49,52-55,57-62,64-75,77 and 78* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *39,45-49,52-55,57-62,64-75,77 and 78* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *17 December 2007* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on May 6, 2010 has been entered.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim 39,49 and 65 are rejected under 35 U.S.C. 102(b) as being anticipated by Kaminski et al. (US Patent No. 5,640,957).

Kaminski et al. disclose a device for determining an allowable UV exposure time or allowable UV radiation dose for human skin, comprising: a UV emitter for emitting UV radiation penetrating into the skin of a test subject at a wavelength between 345 nm and 355 nm (column 3, lines 20-64; column 5, lines 41-53); a UV sensor for receiving UV radiation diffusely reflected by the skin (column 3, lines 36-64; column 5, lines 41-53); and an evaluation unit coupled to the UV emitter and the UV sensor for determining UV radiation absorption of the skin based on the UV radiation emitted by the the UV emitter and penetrating into the skin of a test subject at a wavelength between 345 nm and 355

nm and the diffusely reflected UV radiation received by the UV sensor (column 6, lines 12-47; column 3, line 66-column 4, line 18; column 3, lines 20-64). With regards to claim 49, Kaminski et al. disclose a processor unit coupled to the evaluation unit and operable to computer a mean value of a plurality of determinations of UV radiation absorption of the skin (i.e. treated skin), wherein the processor unit is operable to assign a threshold UV radiation dose (i.e. SPF) to a single determination of UV radiation absorption of the skin or the mean value of a plurality of determinations of UV radiation absorption of the skin (column 6, line 12-column 7, line 19; column 4, line 39-column 5, line 6); and an electronic memory coupled to the processor unit and operable to store a fraction of erythemally-effective UV radiation from a UV radiation source, and the processor unit is operable to compute a maximum UV exposure time or UV radiation dose from data of the UV radiation source and the threshold UV radiation dose (column 6, line 12-column 7, line 19; column 4, line 39-column 5, line 6; note that computers inherently comprise an electronic memory).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 52-53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaminski et al. as applied to claims 39 above, and further in view of Gershteyn et al. (US Patent No. 6,348,694).

With regards to claims 52-53, as discussed above, Kaminski et al. meet the limitations of claim 39. They further disclose a computer which receives data and computes calculations with the data (column 4, lines 39-57). However, they do not specifically disclose that their invention further comprises an interface for storing and retrieving data, wherein the interface can be used to operate a UV radiation source. Gershteyn et al. disclose methods and apparatus for determining both an ability of the skin to withstand exposure to harmful radiation, as well as safe exposure time of the skin to the harmful radiation (column 1, lines 8-12). Gershtyn et al. disclose that their apparatus comprises an interface (86, 102, processor with a central processing unit and memory; user-interface) for storing and retrieving data, which allows an individual to analyze the data (Figure 7, column 21, lines 39-48). Further, they disclose that the interface can be used to operate a UV radiation source, which gives the user control over the apparatus (i.e pressing the “START” button on the user interface) (column 21, lines 30-38; column 22, lines 14-27). At the time of the invention, it would have been obvious to one of ordinary skill in the art to modify the invention of Kaminski et al. to have their invention further comprise an interface for storing and retrieving data, wherein the interface can be used to operate a UV radiation source, as taught by Gershteyn et al., in order to present the user with the data for analysis and to give the user control over the apparatus (column 21, lines 30-48; column 22, lines 14-27).

6. Claim 61 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kaminski et al. as applied to claim 39 above and further in view of Lipman et al. (US Pub. No. 2002/0052562).

As discussed above, the above combined references meet the limitations of claim 39. However, Gershteyn et al. do not disclose that their device further comprises a distance measuring instrument for maintaining a predetermined distance between a UV radiation source and skin. Lipman et al. discloses neurological diagnostic tools including method and devices for monitoring and managing patient pain (pg. 1, paragraph [0002]). They disclose one embodiment of their system that includes a hand held fixture to hold a heat source assembly that includes two projector bulbs to generate the heat beam (pg. 8, paragraph [0086]). Also included in their invention is a distance measuring device (pg. 8, paragraph [0086]). The device provides a display indicator to tell the operator how to adjust the hand held unit (i.e. toward or away from the skin) in order to keep it at the proper distance (pg. 8, paragraph [0086]). At the time of the invention, it would have been obvious to one of ordinary skill in the art to have included a distance measuring instrument in the invention of the above combined references, as taught by Lipman et al., in order to tell the operator how to adjust the device in order to maintain the device at the proper distance (pg. 8, paragraph [0086]).

7. Claim 62 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kaminski et al. as applied to claim 39 above, and further in view of Shi (US Patent No. 5,107,123).

As discussed above, Kaminski et al. meet the limitations of claim 39. However, Kaminski et al. do not disclose that their device further comprises a temperature sensor. Further, they do not disclose that the temperature sensor is coupled to an evaluation unit and is operable to initiate a UV radiation absorption determination of the skin when an optimum bulb wall temperature of a UV radiation source to be measured in a tanning bed is reached. Shi discloses an ultraviolet radiation measuring device for measuring ultraviolet radiation in a selected environment. They disclose that their invention includes a temperature sensor located in close proximity with an optical-electrical signal converter (column 6, lines 62-63). The temperature sensor monitors the ambient temperature and provides electrical signals indicative of the monitored temperature (column 6, lines 62-66). The temperature is displayed and used for further processing of the UV intensity signal (column 6, line 62 through column 7, line 4). A processor takes a digital ultraviolet intensity signal and digital temperature signal and generated display signals representative of the instantaneous radiation levels present in the area sensed by the device (i.e. temperature sensor is coupled to a processor, which serves as an evaluation unit)(column 7, lines 26-32). The processor also integrates the measured levels over time to calculate an accumulated ultraviolet radiation value used to obtain a prescribed radiation dose (column 7, lines 32-36). At the time of the invention, it would have been obvious to one of ordinary skill in the art to have included the limitations discussed above in the invention Kaminski et al., as taught by Shi, in order to generate an ultraviolet intensity signal which is independent of ambient temperature (column 5, lines 56-65).

8. Claim 66 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kaminski et al. as applied to claim 65 above and further in view of Wulf (US Patent No. 4,882,598).

As discussed above, Kaminski et al. meet the limitations of claim 65. However, they do not disclose that when the maximum UV exposure time or UV radiation is reached, the UV radiation source is shut off. Wulf et al. disclose a method and an apparatus for determining an individual's ability to stand exposure to ultraviolet radiation prior to causing a skin reaction, or for determining an individual's ability to become tanned by exposure to ultraviolet radiation (abstract). They disclose that their invention determines when an individual should not expose his or her body to ultraviolet radiation (i.e when maximum UV exposure time or UV radiation is reached) and if the computer has determined that the individual is erythrodermic or erythematous, the power to the tubes or bulbs are cut off (i.e. radiation source is shut off) (column 18, line 41 through column 19, line 16). At the time of the invention, it would have been obvious to one of ordinary skill in the art to modify the invention of Kaminski et al. to have the UV radiation source shut off when the maximum UV exposure time or UV radiation is reached, as taught by Wulf et al., in order to prevent radiation damage.

9. Claim 77, 45-46 and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaminski et al. as applied to claim 39.

As discussed above, Kaminski et al. meets the limitations of claim 39. Further, Kaminski et al. disclose that the UV emitter and the UV sensor are disposed in a housing of a hand-held instrument, wherein the UV emitter and the UV sensor are

disposed in a housing, and wherein the housing has an application surface for placement on the skin, each of the UV emitter and the UV sensor has an optical axis, and that a reflection of a ray on the optical axes of the UV emitter and the UV sensor occurs at a depth of penetration below the application surface sufficient to measure diffuse reflection in a layer of skin (column 3, lines 36-column 4, lines 25; column 7, lines 21-28; see Figures 1-3). Kaminski et al. further disclose that their invention can emit UV radiation in the UVA and UVB ranges and therefore the UV emitter is capable of emitting UV radiation for which the skin has an absorption coefficient μa greater than or equal to a scattering coefficient μs and can emit UV radiation having a wavelength smaller than the diameter of a skin nucleus (column 3, lines 21-36). Further, it is well known in the art that the depth of penetration varies with the wavelength of the impinging radiation, and therefore since Kaminski et al. disclose that their device is capable of transmitting different wavelengths (i.e. wavelengths in the UVA and UVB range), the depth of penetration can be varied (column 3, lines 21-36).

Although Kaminski et al. do not specifically disclose that in the embodiment discussed above, shown in Figures 1-3, the UV emitter and the UV sensor are disposed at an angle relative to each other, they do disclose that, for greater accuracy, an inventive angled or bi-pole probe may be used. They further disclose another embodiment in which two separate probes are used, wherein one is for transmitting ultraviolet radiation and the other probe is for receiving the diffused and reflected ultraviolet radiation off the skin (column 5, line 41-column 6, line 11). They disclose that the probes can be angled relative to each other, resulting in a reflection of a ray

occurring at a depth of penetration below the application surface sufficient to measure diffuse reflection in a layer of skin, in order to provide more efficiency in gathering reflected light and radiation and to avoid misreadings based on noise from surface reflected light and radiation (column 5, lines 41-column 6, lines 11; see Figures 6-7). As can be seen in Figures 6-7, the optical axes of the UV emitter and the UV sensor span an angle of approximately 70-110 degrees. At the time of the invention, it would have been obvious to modify the embodiment of Kaminski et al., which includes a UV emitter and sensor disposed in a housing of a hand-held instrument, to have the UV emitter and UV sensor disposed at an angle relative to each other, as taught by Kaminski et al., in order to provide more efficiency in gathering reflected light and radiation and to avoid misreadings based on noise from surface reflected light and radiation (column 5, lines 41-column 6, lines 11; see Figures 6-7).

10. Claim 47 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kaminski et al. as applied to claim 46 above, and further in view of Anderson et al. (US Patent No. 6,529,543).

As discussed above, Kaminski et al. meet the limitations of claim 46. However, they do not specifically disclose that the angle of the optical axes can be adjusted to vary the depth of penetration. Anderson et al. disclose systems and tools for controlling the optical penetration depth of laser energy (i.e. ultraviolet energy) when delivering laser energy to target tissue in a patient (column 1, lines 12-18, lines 48-56). The systems and tools control the optical penetration depth (OPD) by controlling the incident angle at which the laser energy is delivered to the target area of the patient (column 1,

lines 48-61). An optical coupler permits a user to vary the incident angle and thereby selectively control the OPD of the incident laser energy, thereby delivering the energy to the desired depth (column 1, lines 48-56; Abstract). At the time of the invention, it would have been obvious to one of ordinary skill in the art to modify the invention of Kaminski et al. to have the angle of the optical axes be adjusted to vary the depth of penetration, as taught by Anderson et al., in order to deliver the energy to a desired depth (column 1, lines 48-56; Abstract).

11. Claim 54 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kaminski et al. as applied to claim 77 above, and further in view of Gershteyn et al. (US Patent No. 6,348,694).

With regards to claim 54, as discussed above, Kaminski et al. meet the limitations of claim 77. However, they do not specifically disclose that the housing has two pairs of additional UV sensors, the two additional UV sensors in each pair are oppositely disposed, and the two pairs of additional UV sensors are disposed at an angle of approximately 90 degrees relative to each other. Gershteyn et al. disclose an embodiment in which four ambient radiation sensors are placed as corner sensors (column 19, lines 9-46). As can be seen in Figures 5-6, the housing (90) has two pairs of UV sensors (70A, 70B, 70C, and 70D), with the two UV sensors in each pair oppositely disposed, and the two pairs of UV sensors are disposed at an angle of approximately 90 degrees relative to each other (Figures 5-6). They disclose that by measuring radiation at a number of different incidence angles from different directions and different locations proximate to the skin, the apparatus can provide an accurate

measurement of potentially harmful radiation (column 19, lines 9-46). At the time of the invention, it would have been obvious to one of ordinary skill in the art to modify the invention of Kaminski et al. to have the housing have two pairs of additional UV sensors, the two additional UV sensors in each pair are oppositely disposed, and the two pairs of UV sensors are disposed at an angle of approximately 90 degrees relative to each other, as taught by Gershteyn et al., in order to measuring radiation from different directions and different locations, and thus provide an accurate measurement of the radiation (column 19, lines 9-46).

12. Claims 55,57-59 and 64 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaminski et al. in view of Gershteyn et al. as applied to claim 54 above, and further in view of Benaron et al. (US Patent No. 5,807,261).

As discussed above, the combined references meet the limitations of claim 54. Further, as discussed above, Kaminski et al. disclose that their invention includes sensors that detect ultraviolet radiation (i.e. erythema-effective spectrum). With regards to claim 64, Gershtyn et al. disclose that their apparatus comprises an interface (86, 102, processor with a central processing unit and memory; user-interface) for storing and retrieving data (i.e. databank for storing data received by the sensor) (Figure 7, column 21, lines 39-48). However, they do not specifically disclose that their device further comprises four optical waveguides, each of the optical waveguides having a free end, and the two pairs of UV sensors are formed by the free ends of the optical waveguides. They also do not disclose that the free ends of the optical waveguides has a filter operable to cause a short-wave component of a diffusely reflected UV radiation

to be reflected to a greater extent than a long-wave component of the diffusedly reflected UV radiation, nor that each of the optical waveguides is connected to a common UV sensor. Benaron et al. disclose sensors for in vivo measurements of body tissues (column 1, lines 25-29). They disclose an embodiment of their invention that provides a tissue interrogating tool including a penetrating device with an optical sensor for use in determining whether or not the penetrating device has penetrated to the desired body cavity (column 20, lines 28-41). They disclose that the optical sensor may have a multiplicity of optical components at the distal end of the puncturing tool for emitting and launching light and coupling and detecting light to provide a signal corresponding to the spectral characteristics of the tissue presented to the tool (column 20, lines 33-41). The light detecting window may be one optical waveguide adapted to receive all light sensed, or alternately, the light detecting window may have separate optical waveguides for receiving the light (i.e. sensors comprised of optical waveguides) (column 21, lines 12-26). Further, they disclose that the sensed light signals are can be demultiplexed by time using frequency selective filters that will chop the sensed light into frequency selective signals. At the time of the invention, it would have been obvious to one of ordinary skill in the art to modify the device of the above combined references to include the limitations listed above, as taught by Benaron et al., in order to receive all light sensed and to chop the sensed light into frequency selective segments in order to acquire the desired spectral characteristics (column 21, lines 12-26, column 26, lines 57-67).

13. Claim 60 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kaminski et al. in view of Gershteyn et al. as applied to claim 54 above and further in view of Lenderink et al. (US Patent No. 6,736,832).

As discussed above, the above combined references meet the limitations of claim 54. However, they do not specifically disclose that the distance between the two UV sensors of one pair of the two pairs of UV sensors is approximately equal to a height of a human body lying on a tanning bed. Lenderink et al. disclose a method comprising the steps of determining a quantity related to a person's personal minimum erythema dose and using the quantity as an input for a tanning-related device, influencing its operation (column 1, lines 8-13). They disclose that the tanning is induced by irradiation with ultraviolet light (column 1, lines 14-15). At the time of the invention, it would have been obvious to one of ordinary skill in the art to modify the invention of the above combined references to have the UV sensors be approximately equal to a height of a human body lying on a tanning bed, as taught by Lenderink et al., in order to allow a person in a tanning bed to determine when they have been exposed to the radiation for too long and thus avoid radiation damage (column 1, lines 14-60).

14. Claims 67-68, 70-74 and 78 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaminski et al. in view of VandeBerg ("Genetic analysis of ultraviolet radiation-induced skin hyperplasia and neoplasia in a laboratory marsupai model (Monodelphis domestica)", 1994).

Kaminski et al. disclose a method of determining an allowable UV exposure time or allowable UV radiation dose for human skin, comprising: determining absorption of

erythemally-effective UV radiation in a layer of the skin based on a degree of diffuse reflectance of UV radiation in the layer of skin, the depth of the determination being adjusted for a determination in a specific skin layer; and assigning a UV radiation threshold value based on the determination of UV radiation absorption of the skin (Abstract; column 3, line 37-column 5, line 6). The UV radiation is carried out by means of direct UV irradiation using UV radiation having a wavelength of approximately 345 nm to 355 nm (column 3, lines 22-36). A mean value of a plurality of determinations of UV radiation absorption of the skin is taken, and a UV radiation threshold value is assigned to the mean value (column 4, line 39-column 5, line 6). The determinations are made at different sites and depths of the skin (see Figures 2-3 and 6-7). The device discussed above for claim 39 is used to carry out the step of determining absorption of erythemally-effective UV radiation.

However, they do not specifically disclose that the absorption of the UV radiation is determined in a layer of skin that has developed hyperkeratosis. VandeBerg et al. disclose that ultraviolet radiation is strongly implicated in the induction of various types of skin damage in humans, including actinic keratoses (pg. 12, left column). At the time of the invention, it would have been obvious to one of ordinary skill in the art to have the invention of Kaminski et al. be used to determine absorption of erythemally-effective UV radiation in a layer of skin that has developed hyperkeratosis, as VandeBerg et al. disclose an invention that determines an allowable UV exposure time/radiation dose, and Kaminski et al. teach that UV radiation induces hyperkeratosis, and therefore it

would be beneficial to determine the allowable UV exposure time or allowable UV radiation dose in order to avoid further damage to the skin.

15. Claim 69 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kaminski et al. in view of VandeBerg et al. as applied to claim 67 above, and further in view of Rattray et al. (US Patent No. 4,843,279).

As discussed above, the above combined references meet the limitations of claim 67. However, they do not specifically disclose that UV radiation is carried out be means of fluorescence photometry. Rattray et al. disclose that fluorescent lamps can be used as UV emitters (column 1, lines 19-53; column 2, lines 10-12). At the time of the invention, it would have been obvious to one of ordinary skill in the art to modify the invention of the above combined references to have the UV radiation be carried out by means of fluorescence photometry, as the above combined references require a UV source and Rattray et al. disclose that a fluorescent lamp can be used as a UV source (column 1, lines 19-53; column 2, lines 10-12).

16. Claim 75 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kaminski et al. in view of VandeBerg et al. as applied to claim 67 above, and further in view of Irwin (US Pub No. 2002/0183811).

As discussed above, the above combined references meet the limitations of claim 67. However, they do not specifically disclose that their method is used during a UV irradiation treatment of a human being. Irwin et al. disclose a method and apparatus for treating skin disorders involving exposing a patient's skin to high intensity ultraviolet light (pg. 1, paragraph [0003]). They disclose that this involves exposing the skin to a

specific doses of radiation, which is specific to each individual (i.e. doses as high as a patient can tolerate) (pgs. 2-3, paragraphs [0035]-[0036]). At the time of the invention, it would have been obvious to one of ordinary skill in the art to modify the invention of the above combined references to have their method be used during a UV irradiation treatment of a human being, as taught by Irwin, as UV irradiation can be used to treat skin disorders and requires knowledge of the allowable UV exposure time or allowable UV radiation dose (pgs. 2-3, paragraphs [0035]-[0036]).

Response to Arguments

17. Applicant's arguments filed May 6, 2010 have been fully considered but they are not persuasive.

With regards to claim 39, Applicant argues that Kaminski does not include the diffusely reflected radiation when determining absorption of the skin and further states that Kaminski discloses that radiation reflected and diffused from the surface of the skin is not received (column 4, lines 34-38). Applicant further argues that Kaminski discloses that the diffusely reflected light is used to determine the effectiveness of sunscreen. Examiner agrees that Kaminski discloses that radiation reflected and diffused from **the surface of skin** is not received, but disagrees with Applicant's argument that diffusely reflected radiation is not used when determining absorption of the skin. Kaminski discloses that the intensity of diffused light, such as rays 43 which are rays that exit the below skin surface layers (i.e. epidermal/dermal layers), is measured and is used to determine the absorption of treated or untreated skin (column 3, line 49-column 5, line 6; note that Kaminski discloses that a measurement of high

intensity corresponds to low absorption). Kaminski discloses that the radiation reflected and diffused from the **surface of skin** is considered as noise as it corresponds to rays which do not reach the skin, and therefore the probe which receives the diffusely reflected light from skin should be protected from all but deeper traveling, potentially more harmful ultraviolet rays (43) (i.e. rays reflected from the epidermal and dermal skin layers) (column 5, lines 19-37). Thus diffusely reflected UV radiation from below the surface of the skin is used to determine the UV radiation absorption of the skin (i.e. untreated or treated skin) (column 6, lines 12-47; column 3, line 66-column 4, line 18). It is noted by the Examiner that although the invention of Kaminski is used to determine the effectiveness of sunscreen, in order to do this, Kaminski discloses that the UV radiation absorption of untreated and treated skin is evaluated and determined (column 6, lines 12-47; column 3, line 66-column 4, line 18). Thus, as is further discussed in the above rejection, Kaminski meets the limitations of claim 39.

With regards to claim 67, Applicant argues that Kaminski discloses that physiological data is gathered by scanning both a treated area and an untreated area of the skin of a subject to determine sun protection factors, which Applicants argues has nothing to do with determining a threshold value of UV radiation of a subject. However, the claims as they currently stand are not limited to untreated skin, and therefore Kaminski's invention of determining a threshold value of UV radiation of treated skin of a subject meets the claim limitations. Note that SPF is considered as representative of a threshold value of UV radiation since SPF relates to the amount of time a person has to be safe from sunrays before burning. Further, as is noted above, in order to determine

the sun protection factor, Kaminski discloses that the UV radiation absorption of untreated and treated skin is evaluated and determined (column 6, lines 12-47; column 3, line 66-column 4, line 18) and thus Kaminski disclose that a UV radiation threshold value (i.e. SPF) is assigned based on the determination of UV radiation absorption of the skin (i.e. treated and untreated skin).

Conclusion

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to KATHERINE L. FERNANDEZ whose telephone number is (571)272-1957. The examiner can normally be reached on 8:30-5, Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Long Le can be reached on (571)272-0823. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Eric F Winakur/
Primary Examiner, Art Unit 3768